in places by flows of felsite-porphyry, granite-porphyry, syenite-porphyry, hornblende-vogesite, diorites, diabase, and augite-porphyrite. The greatest interest of the paper lies in the discussion of the nature of the weathering product, laterite, which here, as in other tropical lands, constitutes so large a part of the rock covering. In the Seychelles this material results from the decomposition of both acid and basic rocks, but it is best developed in connection with the granite, bowlders of which may consist of the fresh rock in the center and laterite on the exterior, with a complete series of gradation forms between. The typical laterite is a red, brown, or yellow mass that may be dense and hard, clay-like, or sandy and friable under different conditions. Often this substance may be mixed with quartz grains or mica scales. In thin section it is sometimes nearly opaque, sometimes completely transparent. Everything but the quartz of the granites and the ilmenite of basic rocks has been changed to a light-colored, scaly aggregate of doubly refracting plates colored in places by iron oxides and other compounds. Analyses of this substance from granite and diorite yield: 60.68% Al_2O_3, 9.56% Fe_2O_3, and 29.76% H_2O for granite-laterite, and 51.98% Al_2O_3, 20.95% Fe_2O_3, and 27.07% H_2O for diorite-laterite.

Laterite is thus very different from clay; in composition it is much more like hydrargillite. The beauxite of the Vogelsberg and other supposed beauxites derived from basalts are of the same nature. In all cases the laterite is the residue left by leaching agents in a tropical climate. The occurrence of the beauxite at Vogelsberg indicates to the author the existence of a warm climate over this place at the time the beauxite was formed.

Isenite and Intermediate Types of Volcanic Rocks. — In the Westerwald, in the province of Hesse-Nassau, basalts, trachytes, andesites, and phonolites are well developed in many different phases, especially in the transition forms that have recently attracted so much attention among petrographers. The predominant andesite, for instance, is a transition phase between andesite and trachyte; some of the other andesites are basaltic in habit, and a few of the trachytes are phonolitic. Dannenberg[1] describes all these types in detail, and adds analyses of many of them. The "isenite" from Sengelberg, Kramberg, and Himmrich consists of a groundmass made up of lath-shaped plagioclases, and small grains of augite and of olivine, magnetite, and some secondary substances, and pheno-

[1] *Min. u. Petrog. Mitth.*, Bd. xvii, pp. 301, 421.

crysts of plagioclase, augite, and opacitic pseudomorphs of hornblende. The porphyritic plagioclase occupies about half the mass of the rock. Like the feldspar of the groundmass, it is a basic labradorite. The rock is thus a hornblende-andesite.

Dike Rocks of Portland, Me. — Lord[1] maps and briefly describes the basic and acid dikes that cut the schists in Casco Bay and on Point Elizabeth, Portland, Me. The basic dikes are nearly all porphyritic. In composition they are olivinitic and enstatitic diabases, and camptonites. The acid ones are pegmatites and aplites. The rock called camptonite is composed of porphyritic olivines and augites in a groundmass consisting of idiomorphic brown hornblende, anorthoclase, magnetite, and secondary products. The hornblende is in small prisms, some of which contain remnants of augite, and therefore are believed to be paramorphic. The anorthoclase is in lath-shaped crystals arranged radially. Analyses of the anorthoclase (I) and the camptonite (II) follow:

	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	FeO	CaO	MgO	Na_2O	K_2O	H_2O	Total
I.	57.34		20.79	2.88		4.27	.16	8.09	4.17	2.66	= 100.36
II.	45.20	.68	17.12	5.98	6.55	7.89	5.29	4.23	2.13	5.53	= 100.60

In the course of his work the author separated the hornblende from the camptonite of Campton Falls, N. H., and subjected it to analysis with this result:

SiO_2	TiO_2	Al_2O_3	Fe_2O_3	FeO	CaO	MgO	Na_2O	K_2O	Total
37.80	4.54	12.89	6.14	12.55	13.64	4.10	5.26	3.24	= 100.16

Notes. — A biotite-tinguaite dike cuts through the augite-syenite of Gales rocks, Manchester, Essex County, Mass. According to Eakle,[2] the structure of the rock differs from that of a typical tinguaite in that the feldspar and aegirine are in lath-shaped and prismatic crystals rather than in the acicular forms characteristic of this rock. In this respect it resembles sölvsbergite. The composition is:

SiO_2	TiO_2	Al_2O_3	Fe_2O_3	FeO	MuO	CaO	MgO	K_2O	Na_2O	H_2O at 110°	H_2O	Cl	Total
60.05	.11	19.97	4.32	1.04	.79	.91	.23	3.24	7.69	.15	1.26	.28	= 100.04

Oetling[3] has made a number of experiments to determine the effect of various conditions on the manner of crystallization of rock magmas, and has incorporated his results in an article full of interesting comments on his experimental methods and suggestions for future work on the subject.

[1] *Amer. Geol.*, vol. xxii, p. 335.
[2] *Amer. Journ. Sci.*, vol. vi (1898), p. 489.
[3] *Min. u. Petrog. Mitth.*, Bd. xvii, p. 331.